# Customer Release Note

# Linux QMI SDK 03.03.16

SIERRA WIRELESS®

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# Important Notice

Due to the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e., have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Sierra Wireless modem are used in a normal manner with a well-constructed network, the Sierra Wireless modem should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Sierra Wireless accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sierra Wireless modem, or for failure of the Sierra Wireless modem to transmit or receive such data.

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| | |
|---|---|
| *Note:* | *Some airlines may permit the use of cellular phones while the aircraft is on the ground and the door is open. Sierra Wireless modems may be used at this time.* |

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# Document History

| Version | Date | Updates |
|---|---|---|
| 01.00 | April 15, 2016 | Creation |

# Contents

# List of Tables

# 1. Introduction

## 1.1. Document Scope

This document describes the content of the Linux QMI SDK 03.03.16 release.

## 1.2. Document Audience

This release note may be distributed to all direct and indirect customers.

## 1.3. New Features/Enhancements

**Table 1. New Features/Enhancements**

| Feature | Description |
|---|---|
| Lightweight APIs | This provide functions to directly encode/decode QMI request/response. Please refer to packingdemo sample app and the “Lite-SDK-howto” guide |
| New API | • SetLocEngineStateCallback<br>• SLQSSwiGet/SetDyingGaspCfg<br>• SLQSSwiGetDyingGaspStatistics<br>• SLQSSwiClearDyingGaspStatistics<br>• SLQSSetSwiGetResetInfoCallback<br>• SLQSDmsSwiIndicationRegister<br>• SLQSDmsSwiGetResetInfo<br>• SLQSSSetDHCPv4ClientConfig<br>• SetDHCPv4ClientLeaseCallback |
| Miscellaneous | • Update SLQSGetPLMNName to support MNC PCS digit<br>• Fix SLQSOMADMGetSessionInfo compatibility with 74xx<br>• Add LOC_Service sample app<br>• typedef ULONG changed from “unsigned long” to “unsinged int” |

## 1.4. Removed Features

**Table 2. Removed features**

| Feature | Description |
|---|---|
| Sync MTU | Automatically Sync MTU from WDS Runtime Setting.<br>This feature is remove as it is more flexible for developer to manage MTU setting via ifconfig or similar utility |

# 2. Abbreviations and Definitions

**Table 3. Abbreviations and Definitions**

| Abbreviation/Acronym | Definitions |
|---|---|
| MSM | Mobile Station Modem |
| PRI | Product Release Instructions |
| QMI | Qualcomm MSM Interface |
| SLQS | Sierra Linux QMI SDK |
| WP | Work Package |

# 3. Related Documentation

**Table 4. Related Documentation**

| Ref. # | Doc. # | Document title |
|---|---|---|
| [R-1] | 4110914 | Linux QMI SDK Application Developer's Guide |

# 4. Compatibility

**Table 5. Hardware Compatibility**

| Devices Compatibility List |
|---|
| AR7554/AR7554RD |
| EM/MC73xx |
| MC77xx |
| MC83x5 |
| MC/SL9090 |
| WP71xx |
| MC/EM74xx |

*Note: MC77xx devices must operate in "QMI Mode" and not in "Direct-IP" mode.*

To switch device into QMI mode of operation, use the following AT commands:

- **AT!UDPID=68A2**
- **AT!RESET**

*Note: MC73xx, set the device using "**AT!UDPID=68C0**".*

The tables below list the hexadecimal values of the Vendor ID (VID) and Product ID (VID) pairs supported by the Linux QMI SDK.

**Table 6. Supported Application-Mode VID/PIDs**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **VID** | 1199 | 1199 | 1199 | 1199 | 1199 | 1199 | 1199 | 1199 | 3F0 |
| **PID** | 68A2 | 68C0 | 9011 | 9013 | 9015 | 9019 | 9041 | 9071 | 371D |

**Table 7. Supported Boot-Mode VID/PIDs**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **VID** | 1199 | 1199 | 1199 | 1199 | 1199 | 1199 | 1199 | 1199 | 3F0 |
| **PID** | 68A2 | 68C0 | 9010 | 9012 | 9014 | 9018 | 9040 | 9070 | 361D |

To check your device's VID/PID, issue the **lsusb** command. The output will present a list of USB devices with a column showing each device's manufacturer. The device VID/PID can be read from the row containing the correct device manufacturer. Additionally, on MC77xx devices, you can use the **AT!UDINFO?** command to check VID/PID information. If your VID/PID does not match the any of the entries in the tables above, contact your FAE for support.

The following table enumerates the modems with their corresponding firmware that were tested with Linux QMI SDK 03.03.16.

**Table 8. Modem and Firmware tested with the SDK**

| Modem | Firmware |
|---|---|
| MC7430 | SWI9X30C_02.15.00.00 |
| EM/MC7455 | SWI9X30C_02.15.00.00 |
| MC7304 | SWI9X15C_05.05.67.00 |
| MC7354 | SWI9X15C_05.05.66.00 |
| MC7350 | SWI9C15C_05.05.58.01 |
| MC7355 | SWI9X15C_05.05.58.00 |
| MC7330 | SWI9X15C_05.05.58.00 |
| MC7305 | SWI9X15C_05.05.58.00 |
| MC7710 | SWI9200X_03.05.29.06 |
| MC7750 | SWI9600M_03.05.13.02 |
| MC9090 | SWI6600U_02.04.05.00 |
| EM7355 | SWI9X15C_05.05.66.00 |
| EM7330 | SWI9X15C_05.05.66.00 |
| EM7305 | SWI9X15C_05.05.58.00 |

*Note: The SDK in general work across all firmware revisions. However, some new API might require a recent firmware.*

# 5. Software Release Description

**Table 9. Release Information**

| Component | Content |
|---|---|
| SDK version | 03.03.16 |
| Date of generation | 15/04/2016 |
| Binary archive name | SLQS03.03.16.bin.tar.gz |
| MD5 checksum | 97dfc3a2d4022be43c2c61504236b024 |
| Source code archive name | SLQS03.03.16.tar.gz |
| MD5 checksum | 5e567dc0953bc99db021ced21e5b5b1b |
| Processor compatibility | x86, ARM, PowerPC, MIPS |
| Linux kernel compatibility | 2.6.32 to 4.1 |
| USB drivers compatibility | S2.25N2.36 |

# 6. Software Changes Description

## 6.1. Validated Corrections/Improvements

| ID | Description |
|---|---|
| DEV86808 | Check that Firmware Download application may not be disturbed by built-in laptop Sierra modem |
| DEV86812 | New file option ("-f") to be managed by Firmware download tool |
| DEV87737 | Add callback for QMI_LOC_EVENT_ENGINE_STATE_IND |
| ANO87799 | Struct SwiLocGetAutoStartResp and SwiLocSetAutoStartResp use type int instead of defined Sierra type |
| CUS87807 | [Doc] SLQSLOCDelAssData documentation incorrectly describes how to delete all assistance data |
| CUS88069 | information and usage of the LOC API in the SDK |
| CUS89018 | MTU size change in SLQS03.03.11/GobiNet N2.35 causes problems in WAN network |
| CUS89064 | Firmware download completion callback to document events received |
| DEV89151 | Add support for Dying Gasp Linux SLQS SDK APIs |
| DEV89185 | Please add support for MNC PCS digit to SLQSGetPLMNName |
| DEV89186 | SLQSNasGetSysInfo structures to describe how 2 digit MNC values are handled |
| ANO89272 | download_9x30_to_slot uses DEVICE_SHUTDOWN |
| CUS89278 | FwDldCompletionCbk not triggered when using SLQSDownloadFirmwareToSlot |
| CUS89279 | MC7350: SLQSSDK 03.03.14 patch for compilation |
| DEV89309 | Implement API to indicate a reboot is pending |
| CUS89324 | SLQSUpgradeFirmware9x15 and SLQSDownloadFirmwareToSlot to document success values |
| DEV89332 | Add APIs to support DHCPv4 Client Configuration and Lease Status |
| ANO89506 | Update documentation of txInfo fiield in struct nasGetTxRxInfoResp |
| DEV89594 | merge SDK Lite wrapper |
| ANO89609 | [Linux][MC7430][FirmwareDownload] fwDL fails after 9 downloads |
| ANO90171 | Documentation for pMinIntervalTime missing in SLQSLOCStart |
| ANO90248 | [SLQS03.03.15] API doc qaGobiApiIms.h update for API supported device |
| ANO90444 | doSLQSSwiGetAllCarrierImages qatest case crash |
| ANO90445 | adapt 8/16bit retry count on 9x30/9x15 on SWIOMA_GET_SESSION_INFO |
| DEV90585 | [Developer Studio FDT] Firmware download failed when launch SDK without root permission |
| ANO90660 | [SLQS03.03.16 scope] firmware download sample application fails to read the image information if there is no '\' symbol in the end of the path |

## 6.2. Known Issues

| ID | Description |
|---|---|

## 6.3. New API

| API | Comment |
|---|---|
| SLQSSetDHCPv4ClientLeaseStatusCallback | This API enables/disables the DHCP Client V4 Lease Status callback function. The most recent successfully subscribed callback function will be the only function that is invoked when the corresponding event occur |
| SetLocEngineStateCallback | This API Sends the GPS State Information event to the control point |
| SLQSSetSwiGetResetInfoCallback | This API set/clear Reset Info callback |
| SLQSSwiSet/GetDyingGaspCfg | This function set/get Dying GASP Config |
| SLQSSwiGetDyingGaspStatistics | This function queries Dying GASP Statistics |
| SLQSSwiClearDyingGaspStatistics | This function Clear Dying GASP Statistics |
| SLQSDmsSwiIndicationRegister | This function used to set Swi Indication Register |
| SLQSDmsSwiGetResetInfo | This function is used to get reset info |
| SLQSSSetDHCPv4ClientConfig | This API configures the DHCP Client V4 Configuration |

## 6.4. Minor API prototype change

Note: when updating SDK, please make sure to pull the latest headers from <SDK_ROOT>/api folder

| API | Comment |
|---|---|
| SLQSGetPLMNName | Add MNC PCS status in request structure |

## 6.5. Macro Usage

| Macro | Usage |
|---|---|
| AM_API_MUTEX_TIMEOUT_IN_SEC | This is the timeout time (in seconds) for which the mutex is locked when the SDK is compiled with API_TIMEOUT flag. |
| API_TIMEOUT | This is a compilation flag. If this flag is defined during compilation, SDK will lock the mutex for a particular time. The locking time is defined by AM_API_MUTEX_TIMEOUT_IN_SEC. If this flag is not defined then the mutex is locked indefinitely. |